Special Issue

Role of Oxidative Stress in Diabetes and Complications: From Biomarkers to Therapeutic Targets

Message from the Guest Editor

Oxidative stress is a phenomenon caused by an uncontrolled imbalance between production and accumulation of reactive oxygen species (ROS) and the ability of a biological system to detoxify these reactive products. A growing body of evidence suggests a biological link between ROS intracellular damage and the onset of insulin resistance, □-cell dysfunction, and chronic hyperglycemia on the one hand, and the occurrence of diabetic vascular complications on the other. Different types of oxidative-stress-related molecules have been identified, such as the F2-isoprostanes 8-iso-prostaglandin (PG)F2□ and plasma AGE/RAGE axis, both involved in platelet activation, endothelial dysfunction, and thrombus formation in the setting of diabetes. Some of these are emerging as valuable biomarkers to provide important information about the efficacy of the antidiabetic treatment. Given the important role of oxidative stress in the pathogenesis of many clinical conditions, antioxidant therapy may positively affect the natural history of these diseases, but further investigation is needed to evaluate the real efficacy of related therapeutic interventions.

Guest Editor

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Deadline for manuscript submissions

closed (31 March 2021)

Antioxidants

an Open Access Journal by MDPI

Impact Factor 6.6
CiteScore 12.4
Indexed in PubMed

mdpi.com/si/59538

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About the Journal

Message from the Editor-in-Chief

It has been recognized in medical sciences that in order to prevent adverse effects of "oxidative stress" a balance exists between prooxidants and antioxidants in living systems. Imbalances are found in a variety of diseases and chronic health situations. Our journal *Antioxidants* serves as an authoritative source of information on current topics of research in the area of oxidative stress and antioxidant defense systems. The future is bright for antioxidant research and since 2012, *Antioxidants* has become a key forum for researchers to bring their findings to the forefront.

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